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Identifying factors for promoting evidence-based policymaking in Japan with the perspective of policymakers, researchers and knowledge brokers: a semistructured interview

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Abstract

Background The promotion of evidence-based policymaking (EBPM) is increasingly recognized globally for its potential to maximize health outcomes by efficiently utilizing finite resources and focusing on evidence. Although previous literature has identified some facilitators and barriers to promoting EBPM, these are mainly produced in Western countries, with no comparable research conducted yet in Japan. In recent years, knowledge brokers (KBs) have been focusing on the potential to facilitate EBPM. However, previous studies have targeted policymakers and researchers. This study explores the factors promoting EBPM in Japan by integrating the perspectives of policymakers, researchers and KBs.

Methods Semistructured interviews were conducted with 15 informants, 5 from each stakeholder, including policymakers, researchers and KBs. The data were analysed using an inductive thematic approach. Since this study aimed to identify factors considered necessary by multiple individuals for promoting EBPM rather than extracting atypical opinions, subcategories were defined as those with at least two speakers.

Results A total of 15 interviewees (5 from each of the three stakeholders) participated. We identified five categories and 25 subcategories. The identified categories included cooperative engagement between government and external organizations, policy methods and mechanisms, governmental structure and environment, academic environment and development structure of KBs. The extracted subcategories were generating flexible evidence by researchers meeting the policy needs and creating platforms for active exchange of opinions and relationship-building across organizational boundaries.

Conclusions Most factors identified in previous studies were observed in the Japanese context. Thus, we recommend that Japan implement interventions already established abroad, as they can significantly contribute to the advancement of EBPM. In addition, by incorporating the perspectives of KBs alongside policymakers and researchers, this study identified factors not addressed in prior research. To further support EBPM advancement,

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future studies should identify the competencies required for KBs and explore effective strategies for their development.

Keywords Evidence-based policymaking, Policymaker, Researcher, Knowledge brokers

Background

The importance of promoting evidence-based policymaking (EBPM) is being increasingly recognized globally for its potential to maximize health outcomes by efficiently utilizing finite resources and focusing on evidence [1]. However, various challenges remain in effectively linking the evidence to policymaking. These include the reality that evidence alone does not automatically translate into effective policies, the inherent complexity of the policymaking process and the complicated political dynamics at play [2–4].

While EBPM has advanced in Western countries, statistical data and evidence have not been sufficiently utilized in policy formulation in Japan [5]. In 2015, discussions on statistical reform were held by an advisory council. In 2016, a recommendation emphasized the importance of EBPM in making rational policy decisions on the basis of evidence to maximize policy effectiveness within limited budgets and resources. In 2017, the Statistical Reform Promotion Council was established, leading to the creation of the EBPM Promotion Committee. The process continued in 2018 with the formulation of the "Basic Guidelines on the Provision of Statistical and Other Data and the Policy on Securing and Developing Human Resources". Since 2015, these processes have raised awareness of EBPM within the Japanese government and have driven efforts to advance its implementation [5, 6].

To overcome the challenges of promoting EBPM, several reviews have identified factors that either facilitate or hinder the efficient integration of research evidence into policymaking [7, 8]. These findings highlight the importance of establishing and strengthening personal connections, building mutual trust between researchers and policymakers, fostering collaboration between researchers and policymakers, producing relevant research, ensuring timely research dissemination, maintaining an appropriate balance of power and budget allocations, improving policymakers' skills and providing managerial support as key contributors to enhancing research use in policymaking.

In addition, recent individual studies have identified new facilitators for integrating evidence into policies. These include developing government structures that support novel research findings, generating evidence through multiinstitutional collaboration and leveraging situation-orientated evidence. However, undervalued policy research in the academic environment [9, 10], limited time for research dissemination [9], lack of transparency in the policymaking process [11], excess government reorganizations [12], external pressures that supersede research evidence [9, 11] and the absence of practical and actionable research findings [12, 13] could potentially inhibit the EBPM promotion. Although several studies have identified various facilitators and barriers, these studies have mainly been conducted in North America and Europe, with limited studies in Asian countries. In particular, no comparable research has been conducted in Japan [7, 8]. It remains unclear whether the existing evidence is specific to other countries or whether similar trends can be observed in Japan.

In recent years, knowledge brokers (KBs) have gained attention as one of the facilitators of EBPM [14], and their effectiveness has been observed in various fields, including healthcare [15], education [16] and policymaking [17]. KBs are often described as human agents facilitating knowledge transfer, enabling the movement of information from one location or group to another [18]. Specifically in the health policy context, KBs have the function of bridging the gap between research evidence and policymaking to promote EBPM [15, 19]. Oldham and McLean [20] and Ward et al. [21] proposed three main functions for KBs: (1) knowledge management by compiling and evaluating evidence on specific policies; (2) intermediation by facilitating connections between policymakers and researchers and (3) capacity building by providing education to policymakers on research. Among these, KBs are considered particularly effective when acting as intermediaries to link research evidence and policymaking. Because studies in this area are more likely to focus on either researchers or policymakers, none have considered researchers, policymakers or KBs equally. The populations examined in the most recent review were predominantly policymakers, policy advisors, healthcare managers and researchers [8].

Thus, this study aimed to identify the factors that promote EBPM in Japan by integrating the perspectives of policymakers, researchers and KBs. By focusing on Japan's unique context, it seeks to generate actionable insights that address local challenges and contribute globally. Furthermore, examining the factors influencing EBPM among these stakeholders can enhance awareness of evidence utilization and generation while improving coordination mechanisms for evidence supply and

demand. KBs are included as research subjects because previous studies have identified their utilization as a factor promoting EBPM. Given their significant role in Japan, this study aimed to identify specific contributing factors by incorporating their perspectives.

Methods

Study design and study setting

This qualitative study uses one-on-one semistructured interviews to explore the factors that promote EBPM in Japan. The Standards for Reporting Qualitative Research (SRQR) checklist was adopted [22].

Recruitment and data collection

Semistructured interviews were conducted using an interview guide from February to September 2023 (see Appendix 1). In total, 15 participants were interviewed, 5 from each stakeholder: policymakers, researchers and KBs. Although the sample was not limited to specific areas of health, we targeted individuals with experience in health policy development, implementation, research or advisory roles. The inclusion criteria of study participants in this study were as follows.

1. Study participants could be policymakers employed by governmental authorities with director-level positions or analysis officers with at least 10 years of experience. They typically rotate between departments every 2–3 years. During these rotations, they are responsible for setting policy issues, identifying policy needs and formulating and evaluating policies.
2. Study participants could be researchers who have served as principal investigators or subinvestigators of large-scale research projects funded by government research grants, with experience in advisory roles. They are responsible for generating evidence through commissioned research projects, such as those funded by the Ministry of Health, Labour and Welfare. Additionally, some researchers are invited as external experts to national councils and advisory committees for specific policies to provide academic insights. However, such opportunities are not widely available to most researchers.
3. Study participants could be KBs with research or clinical backgrounds who were involved in the policymaking process for more than 2 years in government authorities. Japan has a system in which the private and healthcare sectors, including hospitals, assign personnel to ministries, research institutes and clinical fields. These personnel are expected to serve as KBs, playing an important role in the relationship between health policy, various fields (for example, local governments and clinical fields) and scientific evidence. A 2-year secondment is typical in Japan but may be extended.

The study participants were recruited using snowball sampling. A researcher (S.S.) recruited potential participants from her network and asked the interviewees to refer to other potential participants who met the study criteria. No participants declined participation or withdrew from the study.

Y.A. and S.S. conducted semistructured interviews. S.K., H.M. and H.U. also participated in the interviews. One of the interviewers (S.S.) was a paediatrician with substantial experience in policymaking as a technical officer in the Ministry of Health, Labour and Welfare. To mitigate researcher bias, the following measures were implemented: (1) during the interviews, a structured interview guide was used to ensure consistency across participants. The questions were designed to follow the sequence of the EBPM cycle, systematically eliciting relevant factors. Additionally, a neutral stance was maintained throughout the interviews to minimize bias; (2) during the analysis, the researcher did not serve as the primary analyst. Instead, two researchers conducted independent coding, and any discrepancies in categorization were resolved through discussion. A third researcher participated as a reviewer when consensus could not be reached between the two coders.

The interview guide was developed on the basis of a literature review and pilot interviews [23–25]. The interview was structured around the following policymaking process: identifying the current situation, setting the agenda, policymaking, building consensus, policy implementation and evaluation [5, 24]. The informants were first asked about their recognition of each policymaking process, the factors that promote or hinder these steps, and potential solutions to address the inhibiting factors. Each interview was audio recorded and transcribed to a Word file. Electronic data (recordings and text) did not contain any respondent identifiers. Each researcher (Y.A., S.K., H.M., H.U. and S.S.) shared data on a protected internal system, which cannot be accessed externally. Theoretical saturation was achieved when no new themes emerged [26].

Data analysis

The data was analysed with the following processes:

1. Y.A. read all interview transcripts multiple times and segmented the texts into meaningful units. Subsequently, S.K., H.M. and H.U. independently reviewed the units.
2. Coding was conducted in pairs using an inductive thematic analysis approach. Each pair included one

Table 1 Demographics of the study participants

Stakeholder	Organizational type	Gender	Years of experience (range)*
Policymaker	Government	Male	10–14
	Government	Female	15–19
	Government	Male	10–14
	Government	Male	20 or over
	Government	Male	10–14
Researcher	University	Male	20 or over
	University	Male	10–14
	Research institute	Male	20 or over
	Research institute	Male	10–14
	University	Male	20 or over
KBs	University	Female	10–14
	Hospital	Male	15–19
	University	Male	15–19
	Research institute	Male	15–19
	University	Male	15–19

*The years of experience for KB indicate the total number of personnel exchanges and clinical or research experience

researcher (Y.A.) to ensure consistency across the analysis, working alongside other researchers (S.K., H.M., or H.U.).

3. The pairs compared their coding results. When discrepancies occurred among researchers (Y.A., S.K., H.M. or H.U.), additional researchers (K.T. and S.S.) participated in discussions to reach a consensus.
4. Subsequently, the pairs independently re-examined the texts to refine the context and coding, repeating this cycle until all results were consistent.
5. Since this study aimed to identify factors considered necessary by multiple individuals for promoting EBPM rather than extracting atypical opinions, subcategories were defined as those with at least two speakers. Consequently, codes with only one speaker were treated as extraneous codes. These codes were defined as follows: codes that did not fit into any existing subcategory and, even when combined with other extraneous codes, did not justify the creation of a new subcategory. These classifications were determined through researcher consensus.
6. Y.A. translated the data.

Results

In total, 15 interviewees (5 from each of the three stakeholders) participated. Table 1 describes the interviewees' characteristics. All of the policymakers were affiliated with the government. Researchers were employed in either universities or research institutes. KBs were primarily affiliated with universities, research institutes and hospitals. All recruited participants participated in the interviews. We identified five categories and 25 subcategories. The identified categories were cooperative engagement between government and external organizations, policy methods and mechanisms, governmental structure and environment, academic environment and development structures of KBs. Each category, subcategory and illustrative quote is provided in Table 2. The following paragraphs present detailed explanations and narratives for this subcategory.

Cooperative engagement between government and external organizations

This category encompassed five subcategories related to building relationships between policymakers and researchers and sharing interorganizational skills: (1) generating flexible evidence by researchers meeting policy needs and establishing administrative mechanisms to leverage them; (2) creating platforms for active exchanges of opinions and relationship-building across organizational boundaries; (3) promoting shared interorganizational awareness throughout the entire EBPM and at each stage; (4) continuing involvement in policymaking from external organizations with specialized knowledge and field expertise and (5) establishing and utilizing think tanks to provide scientifically reliable information. Stakeholders expressed similar views on (2), (3) and (4), emphasizing the importance of cross-organizational platforms, shared awareness and continuous involvement of specialized external organizations. They highlighted the need to bridge gaps in EBPM understanding and terminology. In contrast, (1) and (5) revealed differing opinions; policymakers noted a lack of research aligned with policy needs, while researchers cited insufficient communication of these needs by policymakers.

Policy methods and mechanisms

This category comprised six subcategories related to organizing leverageable data and improving individual EBPM skills: (1) setting agendas from a comprehensive perspective; (2) organizing and disseminating leverageable evidence and data; (3) evaluating the current situation on the basis of accurate data and qualitatively collected field insights; (4) enhancing the knowledge and skills of policymakers and researchers in policymaking processes, EBPM and research; (5) citizen participatory policy formation and (6) ensuring the thorough dissemination of policies and information to local governments and policy beneficiaries. Stakeholders shared concerns regarding (1), (2), (3) and (6), citing unsystematic policy prioritization, overemphasis on vocal groups, insufficient

Table 2 Categories and subcategories related to EBPM promotion, with illustrative quotes from each stakeholder

Category	Subcategory	Illustrative quotes
Cooperative engagement between government and external organizations		
	Generating flexible evidence by researchers meeting the policy needs and establishing administrative mechanisms to leverage them	【Policymaker】 "A few researchers build evidence based on a clear understanding of government needs". 【Researcher】 "I am not sure if policymakers and researchers are communicating properly. I wonder if policymakers are clearly presenting the research questions they want to address to researchers". 【KB】 "When it comes to policymaking, of course, it is ideal to have high-quality evidence, such as randomized controlled trials (RCTs). But in many cases, RCTs cannot be conducted, or comparisons cannot be made. In reality, decisions are often based on case reports and case series".
	Creating platforms for active exchange of opinions and relationships-building across organizational boundaries	【Policymaker】 "I think it is very important to have places where policymakers and researchers can speak openly and listen to each other". 【Researcher】 "It would be helpful to have a closed forum where policymakers and researchers can communicate during the policy formulation stage, without the discussions being open to the public". 【KB】 "If there is no trust between policymakers and those working in the field, things will not go well. Without trust, discussions can turn into blame games or defensive stances, and that makes it impossible to move forward".
	Promoting shared interorganizational awareness throughout the entire EBPM and at each stage	【Policymaker】 "It would be useful to have some kind of guidance document that both government officials and academics can refer to so that everyone involved can share a common understanding of EBPM (Evidence-Based Policy Making)". 【Researcher】 "If communication between stakeholders does not go well, differences in language between academia and government become a major problem. Even when we use the same word, like 'evidence', what policymakers consider evidence often differs from what researchers mean by evidence. It is hard to reconcile these differences. It is important to have a shared understanding between researchers and the government about what constitutes sufficient consensus". 【KB】 "When government officials talk about 'evidence', they often mean something more like reasons or justifications. It is more about explaining decisions than presenting scientifically grounded evidence".

Table 2 (continued)

Category	Subcategory	Illustrative quotes
	Continuing involvement in policymaking from external organizations with specialized knowledge and field expertise	【Policymaker】 "It is desirable for researchers who are responsible for identifying issues and building evidence to continue engaging with policy matters on an ongoing basis, regardless of their personal circumstances". 【Researcher】 "I think it makes sense to have a neutral third party who can offer long-term policy advice without being biased towards either side". 【KB】 "One possible solution is to have researchers placed within government offices to work with internal data that cannot be disclosed publicly. That would help with understanding the current situation and identifying key issues".
	Establishing and utilizing think tanks to provide scientifically reliable information	【Policymaker】 "It is essential for think tanks to maintain reliable datasets and be able to provide information when needed". 【KB】 "I think it is quite challenging that Japan does not have an organization that bridges the gap between the government and academia. To be honest, there are not even that many think tanks to serve that purpose".
Policy methods and mechanisms		
	Setting agendas from a comprehensive perspective	【Policymaker】 "It is a high priority among those who request it, but when it comes to the distribution of resources across society as a whole, it is not very systematic to determine to what extent it should be a high priority". 【Researcher】 "The process of identifying issues often starts based on public sentiment or the opinions of those who speak the loudest". 【KB】 "Since policy decisions in Japan tend to prioritize consensus, many issues are not even recognized as issues. Even when something is genuinely important and requires urgent attention, it is often underestimated if the scale of the damage appears small".
	Organizing and disseminating leverageable evidence and data	【Policymaker】 "It is true that the data published by ministries is not user-friendly. The statistical websites of various ministries are also not very easy to navigate". 【Researcher】 "Since only the government has access to the data after implementation and it is not disclosed externally, policy evaluation can only be conducted within the government". 【KB】 "Although the national and local governments possess vast amounts of data, they do not collect indicators with evaluation in mind, which makes it extremely difficult to use the data for meaningful research".

Table 2 (continued)

Category	Subcategory	Illustrative quotes
	Evaluating the current situation on the basis of accurate data and qualitatively collected field insights	【Policymaker】 "When it comes to reforms, purely theoretical thinking does not mean much because each local council has its own circumstances. It is better to carefully consider the specific situation on the ground and tailor the approach accordingly". 【Researcher】 "Currently, national surveys rarely use proper scales for measuring conditions, so we should work to improve the quality of these surveys". 【KB】 "At present, there are only three ways to set policy agendas: politics, public opinion and petitions. It is not scientific at all. I think it is a significant challenge that the voices of children and those involved with children are not being heard when policies are formulated".
	Enhancing the knowledge and skills of policymakers and researchers in policymaking processes, EBPM and research	【Policymaker】 "Researchers often create idealistic models of the current system without fully understanding its realities, which administrative staff tend to dismiss as impractical theory". "Not all policymakers across departments are familiar with existing statistical data and how to utilize it effectively". 【Researcher】 "I think the low level of literacy among administrative officials regarding the reliability of scientific evidence is a major factor". 【KB】 "Even when it comes to EBPM, many administrative officials do not understand even the basics, which is a significant bottleneck".
	Citizen participatory policy formation	【Policymaker】 "The voices of those directly affected often fail to reach decision-makers, so identifying issues tends to happen too late or remains insufficient". "Even if we believe a policy is good and want to push it forward, it can get stalled by various political discussions and considerations". 【Researcher】 "Even if evidence is available, it may not be reflected in policy because policymakers fear backlash from businesses affected by new regulations". 【KB】 "It is essential to track whether the policy leads to improvements or worsening conditions for the intended beneficiaries".

Table 2 (continued)

Category	Subcategory	Illustrative quotes
	Ensuring the thorough dissemination of policies and information to local governments and policy beneficiaries	【Policymaker】 "The overwhelming majority of policies focus on distributing advertisements and creating posters, with little effort to confirm whether the information actually reaches the target patients and residents". 【Researcher】 "Administrative notifications from ministries to municipalities are often just a single sheet of paper. However, the municipalities are responsible for implementation, so ministries cannot simply say, 'It is not our concern'". 【KB】 "It is crucial to identify the target population for each policy and tailor outreach methods to reach them effectively".
Governmental structure and environment		
	Increasing awareness and establishing evaluation systems for policies within the government	【Policymaker】 "We have evaluation indicators, but we are not yet at the stage where we can say, 'if this indicator stays unchanged, we need to take this specific action'. For example, when the value remains the same, we lack a clear process for determining subsequent steps. It feels like we evaluate for the sake of evaluation". 【Researcher】 "The greatest concern is whether we are actually verifying policy effectiveness. We implement policies and then fail to evaluate whether they genuinely worked before moving on to the next policy". 【KB】 "Evaluations are rarely conducted because new, more immediate issues tend to take precedence".
	Introducing schemes to strengthen implementation capabilities at the local government level	【Policymaker】 "People in local government often view 'evidence' as successful case studies from other municipalities. I would like to see more examples of what has worked". "Some policies are introduced using trial model projects before full-scale implementation". 【Researcher】 "It is effective to create good practices at the municipal level and expand them step-by-step". 【KB】 "When issuing guidelines to municipalities, the government should prepare them more thoroughly to ensure staff unfamiliar with EBPM can implement policies correctly".

Table 2 (continued)

Category	Subcategory	Illustrative quotes
	Ensuring appropriate allocation of budgetary, personnel and time resources within the government	【Policymaker】 "Administrative officials, due to their day-to-day workload, often struggle to produce high-quality outputs". 【Researcher】 "Policymakers must address pressing issues within limited time and information, so it is sometimes inevitable that they work with insufficient evidence". 【KB】 "It often feels like policymakers are juggling all the tasks: preparing for study sessions, drafting materials, disseminating information, responding to parliamentary inquiries and manually checking data. The workload is spread too thin".
	Establishing systems which can fairly reference evidence and expert opinions	【Policymaker】 "It is important to have easily accessible consultation services that provide information about research methods and researcher networks". 【Researcher】 "Each field should maintain a list of neutral experts capable of providing informed opinions". 【KB】 "(When policymakers refer to the opinions of researchers), it has been quite limited and not systematic. There needs to be a list of experts who can provide well-founded opinions". "When you cannot even access PubMed from a government computer, or search for journals, the effort to reflect evidence in policy is already doomed".
	Implementing administrative procedures that reflect not only central government ministries and agencies but also external organizational perspectives in policy evaluation and effectively utilize the outcomes	【Policymaker】 "The policy-making side, the implementing side and the evaluating side are often so closely connected that it is difficult to maintain objectivity". 【Researcher】 "Although researchers sometimes conduct policy evaluations, government agencies rarely act on their findings". 【KB】 "Even if third parties conduct independent evaluations, I doubt the government would actually use the results".
	Instituting administrative personnel systems that enable long-term engagement in policies	【Policymaker】 "The government personnel system rotates staff every 3 years, which makes it hard to plan for the future. By the time long-term strategies are needed, the original planners have already left". 【Researcher】 "Staff members who initiated research projects are often no longer in the relevant department when the results come in, so the findings never influence policy". 【KB】 "For effective policy implementation, each department should create clear plans for 1, 3 and 5 years into the future".

Table 2 (continued)

Category	Subcategory	Illustrative quotes
	Developing flexible frameworks for adjustment policy trajectory	【Policymaker】 "Even when implementation problems surface, it is difficult to revise policies from the ground up due to the administration's culture of 'infallibility' – the belief that mistakes should never happen". 【KB】 "This fundamental assumption of administrative infallibility remains deeply rooted".
	Establishing personnel evaluation systems considering the policy implementation performance of policymakers and policy evaluations	【Policymaker】 "Policymakers tend to be evaluated based more on their budgets than the actual implementation of policies". 【Researcher】 "Even if policymakers conduct policy evaluations, these evaluations do not reflect individual performance, so policymakers tend not to conduct them".
Academic environment		
	Constructing personnel evaluation systems that consider their impact on policies in academia	【Policymaker】 "I believe it would be helpful if academic institutions had mechanisms to evaluate researchers who work on policy-relevant but less publishable research". 【Researcher】 "Focusing on influencing policy does not benefit researchers' careers because it does not contribute to their performance evaluations". 【KB】 "Short-term evaluations and descriptive statistical analyses requested by the government are rarely recognized academically".
	Improving the academic research environment to encourage research that contributes to policies	【Policymaker】 "Conducting research helps identify challenges and guide future policies. I think we need to build a kind of 'policy ecosystem'". 【Researcher】 "Data from certain public health research projects cannot be used for individual research, so researchers lack motivation because it does not contribute to their career achievements". 【KB】 "Health policy requires expertise in areas like big data and health economics, but researchers cannot handle this alone, and government support is often insufficient".
Development structures of KBs		

Table 2 (continued)

Category	Subcategory	Illustrative quotes
	Generating personnel exchange participants by providing lectures and hands-on experience and establishing human resource development systems	【Policymaker】 "From the government's perspective, personnel exchanges are beneficial as they provide practical, real-world insights". 【Researcher】 "I think it would be beneficial if university medical faculties offered more lectures on public health, epidemiology, health policy and medical ethics. This would help train medical professionals who can work in the field while keeping public health considerations in mind". 【KB】 "The lack of preparation for personnel exchanges is evident from how often successors are chosen at the last minute or not at all".
	Introducing career opportunities for personnel exchange participants after their exchange programmes	【Policymaker】 "If researchers see little connection between public health, policy work and their own fields, they will not view government experience as a career advantage". 【Researcher】 "We need to think about career paths that include personnel exchanges and adjust the evaluation system on the academic side".
	Creating support systems to provide technical and psychological assistance to personnel exchange participants	【Policymaker】 "During personnel exchanges, they cannot always work on their preferred projects and often struggle to adapt to the administrative environment. Thus, they need better support". 【KB】 "It is essential to set up a system where the personnel managing these exchanges can provide effective guidance and make adjustments when necessary".
	Providing organizational support to utilize the experiences of personnel exchange participants	【Policymaker】 "If experiences from personnel exchanges in government are not properly shared in the clinical field, the bridge between clinical practice and policy remains weak. As a result, doctors without such experience only understand medical practice and find it difficult to grasp policymaking". 【KB】 "When gathering information about challenges within the sending organization, personnel with administrative experience can likely summarize the issues more efficiently".

individual EBPM skills and the need for thorough policy dissemination. Differing views were observed in (4) and (5), where policymakers criticized the complexity of data access, researchers highlighted data unavailability and KBs stressed the lack of scientific inclusion of beneficiaries' voices.

Governmental structure and environment

The following eight subcategories were identified under the theme of governmental structure and environment: (1) increasing awareness and establishing evaluation systems for policies within the government; (2) introducing schemes to strengthen implementation capabilities at the local government level; (3) ensuring appropriate allocation of budgetary, personnel and time resources within the government; (4) establishing systems that could fairly reference evidence and expert opinions; (5) implementing administrative procedures that reflected not only central government ministries and agencies but also external organizational perspectives in policy evaluation and effectively utilized the outcomes; (6) instituting personnel systems that enabled long-term engagement in policies; (7) developing flexible frameworks for adjusting policy trajectories and (8) establishing personnel evaluation systems that considered the policy implementation performance of policymakers and policy evaluations.

Among these, subcategories (1) and (2) related to policy evaluation and strengthening implementation capabilities at the local government level revealed differing opinions among stakeholders. The former policymakers often expressed uncertainty regarding subsequent actions after evaluations owing to the absence of clearly defined next steps, while researchers and KB stated that evaluations were not conducted within the administration. The latter, policymakers and researchers, frequently mentioned the importance of sharing successful case studies among local governments, whereas KB highlighted the need for detailed policy guidelines from the central government to facilitate implementation by local governments.

Conversely, stakeholders demonstrated similar views on several subcategories, including (3) appropriate allocation of resources, (4) fair referencing of evidence, (5) flexible policy frameworks and (6) long-term personnel systems. All stakeholders emphasized the necessity of creating a list of experts whom policymakers could consult. Additionally, KB expressed concern about the insufficient infrastructure within the government for early and mid-level bureaucrats, who are responsible for policymaking, to access academic journals. Stakeholders also highlighted the challenges posed by (7) the 2- to 3-year personnel rotation system, which made long-term planning difficult and (8) inadequate handovers among policymakers, hindering collaboration with external organizations.

Academic environment

An academic environment comprises two subcategories: (1) developing personnel evaluation systems that reflect policy impact in academia and (2) improving the research environment to foster policy-related studies. Personal evaluation should not be limited to the number of publications but should also consider researchers' contributions to and impact on policies. Improving the research environment requires measures such as government support for health policy researchers. Stakeholders expressed similar opinions on (1), emphasizing the importance of including policy impact in personnel evaluations in addition to research output. However, opinions differed on (2), with researchers highlighting that data obtained from government-funded research could not always be used for individual research purposes and KBs stressing the need for greater support from the government for researchers.

Development structures of KBs

The development structures of KBs category comprised the following four subcategories related to the development of KBs: (1) generating personnel exchange participants by providing lectures and hands-on experience and establishing human resource development systems; (2) introducing career opportunities for personnel exchange participants after their exchange programmes; (3) creating support systems to provide technical and psychological assistance to personnel exchange participants; and (4) providing organizational support to utilize the experiences of personnel exchange participants. Stakeholders emphasized the importance of (3) providing sufficient support due to the significant differences between the research or clinical field and the administrative environment as well as (4) the necessity of establishing support systems within the home organizations of personnel exchange participants to enable them to share their experiences and serve as a bridge to policy-making processes.

Discussion

Through semistructured interviews, this study provided valuable insights for identifying five categories and 25 subcategories to promote EBPM among policymakers, researchers and KBs in Japan. Of these five categories, four were consistent with the most well-recognized and recent review article [8]. These were cooperative engagements between government and external organizations, policy methods and mechanisms, governmental structure and environment and the academic environment. However, one new category concerning the development of

KBs has been identified. This was the first study in Japan to examine factors that promote EBPM by integrating the perspectives of policymakers, researchers and KBs. The subsequent paragraph compares the study's findings with previous literature.

At the subcategory level, both similarities and differences with studies conducted in other countries have been observed. For instance, similarities include the importance of generating evidence that meets policy needs, a key factor in various countries, including the United States, the United Kingdom, the Netherlands, Iran and India [7, 27–29]. Other factors include the establishment of systems that allow policymakers to consult experts, as observed in Australia [12]; the enhancement of individual skills related to EBPM and the creation of platforms for collaboration between policymakers and researchers in Iran, India and Pakistan [7, 27, 28, 30]. Furthermore, securing human resources and budgets is consistently highlighted as an essential administrative task in numerous countries [7, 8, 31]. Because these factors have been extracted from previous studies, it is assumed that they are commonly important factors for EBPM promotion, regardless of country specificity or political system. These findings imply that adopting initiatives similar to those implemented in other countries, such as the National Institute for Health and Care Excellence (NICE) and What Works Centre (WWC) in the United Kingdom [32], could further advance EBPM in Japan.

Additionally, differences were also observed, primarily related to local government and policy evaluation. These differences can be attributed to variations in national political structures and cultural contexts. The following sections discuss the key findings in more detail.

For example, regarding citizen participatory policy formation, Japan does not sufficiently incorporate the voices of stakeholders into policy development compared with Western countries. For instance, in the United Kingdom, the systematic collection of policy beneficiaries' opinions is integral to the policymaking process, fostering a participatory decision-making framework [33, 34]. However, in recent years, Japan has increasingly sought to incorporate the voices of policy beneficiaries into policymaking, particularly in specific fields such as cancer care and dementia. For example, in dementia policy, a guideline for improving dementia-related policies has been developed in collaboration with patients, promoting initiatives that reflect the perspectives of policy beneficiaries. However, in practice, only approximately 20% of initiatives aimed at gathering the voices of affected individuals have been implemented, highlighting the need for further efforts in this area [35]. Given this context, it is likely that this subcategory was identified in this study.

Another example of policy dissemination to local governments and policy beneficiaries is that the Japanese government provides opportunities to explain newly formulated policies to local governments, which serve as the implementing bodies. However, inadequate information sharing remains a significant challenge [36]. A survey conducted by the Ministry of Internal Affairs and Communications found that approximately 30% of local governments faced difficulties in immediately applying national policies to their operations. The survey emphasized the need for more tailored and detailed explanations that align with local contexts [36]. This finding highlights the importance of effective communication in policy implementation, which emerged as a critical factor in this study.

Another example is policy evaluation that incorporates the perspectives of external organizations. Compared with Western countries, Japan has not established a well-developed system for conducting policy evaluations in collaboration with external organizations. In Japanese ministries, policy evaluation primarily occurs within the government. Although researchers may participate in national councils and advisory committees as external experts, an independent system in which researchers conduct evaluations separately and their findings are directly reflected in policymaking remains underdeveloped [37]. By contrast, the United Kingdom established the Evaluation Task Force in 2020, assigning dedicated personnel to policy evaluation, thereby strengthening collaboration with external organizations [38]. Similarly, in the United States, the Foundations for EBPM Act of 2018 (Evidence Act) promotes policy evaluation in cooperation with external organizations and introduces mechanisms to facilitate its implementation [39]. Given this context, this study identified the importance of establishing a system in Japan that enables policy evaluation in collaboration with external organizations.

A key difference between the categories identified in this study and those highlighted in the latest review is the inclusion of factors related to KB development. This distinction likely arises from the participation of KBs, who themselves recognize the importance of establishing a structured system for KB development. On the basis of this, we examined the identified subcategories in relation to the current state of KBs in other countries. For instance, regarding the subcategory generating personnel exchange participants by providing lectures and hands-on experience and establishing human resource development systems, Japan's personnel exchange system frequently allows professionals to transition from the clinical field to government ministries. However, policymakers rarely use this system to gain research experience outside government institutions. Furthermore, compared

with the United States, where administrative personnel are often completely replaced following a change in administration [40], Japan has had a long-standing Liberal Democratic Party (LDP)–Komeito coalition government. Consequently, Japanese policymakers do not automatically gain opportunities to acquire experience from external organizations. In the United States, this turnover has naturally fostered a system in which policymakers and think tanks frequently interact, leading many policymakers to assume the role of KBs. This contextual difference may explain why this subcategory was not identified in previous studies but emerged in this study.

Another notable issue is the absence of a structured system within Japanese ministries for acquiring specialized knowledge while remaining in government service. Japanese policymakers typically rotate between departments every 2–3 years, prioritizing the development of generalists. Consequently, Japan has not established dedicated positions for specialists in data analysis and statistics independent of personnel rotations. By contrast, the United Kingdom employs a substantial number of analysts within the government, who serve as key intermediaries between evidence and policy through cross-government networks such as the Government Analysis Function and the Cross-Government Evaluation Group [38]. In Japan, this role is primarily fulfilled by KBs, who may have contributed to the identification of this subcategory in this study. Given these circumstances, it is essential to develop a system that facilitates personnel exchange between the government and external organizations while simultaneously strengthening the internal capacity of the government for specialized expertise in policymaking.

Strengths and limitations

This study has several limitations. One limitation is the sample's low representativeness, as this study included 15 highly experienced people, with most of them having 10–15 years of experience. Another limitation is the low external validity of other countries. A few categories related to government structure and environment contain aspects specific to Japan, making them less applicable to other countries. Furthermore, regarding the saturation criteria, this study determined the saturation threshold at 15 participants. However, this number reflects the total across all stakeholders, and saturation was not confirmed within each stakeholder group. To examine differences between stakeholder groups more rigorously, it may be more reliable to ensure that the saturation criteria are met within each group. A potential concern also lies in sampling bias. The study recruited participants through the researcher's (S.S.) existing network in the maternal and child health field. This may have limited the diversity of perspectives, potentially reducing the external validity for other health fields.

Despite these limitations, one of the strengths of this study is that it is the first to identify factors that promote EBPM in Japan. The second advantage is the novelty of the study participants. Unlike previous studies, which primarily focused on policymakers and researchers, this study also included KBs. This inclusion allows for the identification of additional factors related to the development of KBs, expanding upon the factors identified in earlier research. This study contributes to the global promotion of EBPM by offering new perspectives, particularly by strengthening the development of KBs, who play a crucial role in integrating evidence into policymaking, thereby fostering a more robust and systematic advancement of EBPM.

Conclusions

In total, five categories and 25 subcategories were identified that promote EBPM. Most of the factors identified in previous studies were observed in the Japanese context. Thus, we recommend that Japan implement interventions already established abroad, as they can significantly contribute to the advancement of EBPM. In addition, by incorporating the perspective of KBs alongside those of policymakers and researchers, this study identified factors that previous research has not uncovered. Thus, the development of KBs should be enhanced globally to advance EBPM significantly. To further support this advancement, future studies should identify the competencies required for KBs and explore effective strategies for their development.

Abbreviations

EBPM	Evidence-based policy making
KBs	Knowledge brokers

Supplementary Information

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Supplementary material 1.

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Author contributions

M.S., H.T., K.T. and S.S. conceptualized the study. Y.A. and S.S. collected data. Y.A., S.K., H.M. and H.U. analysed the data. K.T. and S.S. participated in discussions during data analysis. Y.A. drafted the manuscript with support from Y.Y. and K.T. All the authors have read and approved the final version of the manuscript.

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Availability of data and materials
Data is provided in the manuscript and in the tables. The anonymized dataset supporting the findings of this study is available from the corresponding author, S.S., upon reasonable request.

Declarations

Ethics approval and consent to participate
Informed consent was obtained orally from participants before the interview, and they were not required to sign the document. Prior to conducting the interviews, ethical approval was obtained from the Ethics Committee of the National Center for Child Health and Development (approval number 2022-200).

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

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